TRANSVAAL GOLD-MINING

The fact does not appear to be generally recognized, according to *Engineering*, 99 (1915), 380, that since September last year the production of gold in the Transvaal has on the whole shown a greater output than in the corresponding months of the previous year. The output in October was valued at $15,100,000, as compared with $14,800,000 in October, 1913; in November at $14,800,000, as compared with $13,900,000; in December at $14,350,000, as compared with $13,900,000; in January at $14,900,000, as compared with $13,400,000; and in February at $11,500,000, as compared with $12,900,000. Transvaal gold-mining is, however, threatened with a special war tax by the South African Union.

THE CANADIAN CHEMICAL MARKET

According to *Chemische Industrie*, 38 (1915), 74, prohibition of the exportation of chemicals from England combined with the stoppage of German exports has made Canada dependent almost entirely on American chemical products. Among those chemicals which are especially sought for in Canada are carbolic, salicylic, oxalic, citric and tartaric acids, camphor, cocaine, morphine, codeine, glycerine, hydroquinone, menthol, vegetable oils, potassium permanganate, sodium benzoate and salicylate, and santonine. The prices of these articles have reached from 200 to 900 per cent of their normal values.

MONOPOLY FOR NITROGEN PRODUCTS IN GERMANY

The German Government has introduced a measure of great importance to the chemical industry—*viz.*, a proposal for the establishment of a trade monopoly for various nitrogen products, to remain in force until March 31, 1922 [*Engineering*, 99 (1915), 455]. After that date the Act can be prolonged by fresh legislation. The measure is described as having been due to the present emergency, and comprises: (*a*) Inorganic minerals containing nitrogen; (*b*) nitrogen products manufactured synthetically, as well as natural products; (*c*) manures, containing nitrogen, coming under (*a*) and (*b*). The monopoly will affect the different kinds of saltpeter, nitride of sodium, ammonium products, guanidine, nitric acid, etc. It will affect both the Norwegian and the Swedish industries within that branch, which have a market of some importance in Germany.

TIN MINING IN SIAM

A feature of the tin mining industry which centers around the Straits is the increased production obtained from Siamese Malaya and Siam itself. [*Mining Journal*, 4157 (1915)] Nowhere has the tin dredging industry had so much success, and the scale of operations at the present time is the most extensive anywhere. For the last financial year, 1913–1914, eight dredges were at work, which produced black tin yielding 1,800 tons of metal from 4,700,000 yards of gravel treated. This number has been added to since, and there are now thirteen dredges at work and more under construction. Apart from the dredging industry the output of metal would probably show a declining tendency. The output for the last four years in metal is as follows:

1910–1911	4,900 tons	1911–1912	5,900 tons
1912–1913	6,600 tons	1913–1914	6,800 tons

D. G. ANDERSON

CHINA CLAY IN ENGLAND

The present state of the China clay trade in Cornwall is, according to the *Paper Makers' Journal*, No. 3 (1915), exceedingly quiet. Comparatively little business is being done in any grade. Many of the China clay works are shut down entirely, and others are working short time.

The demand for China clay from America has fallen off considerably, and the scarcity of shipping, combined with high freights and insurance, is proving very detrimental to the home trade. The industry on the whole is badly hit, and most of the works at present working are engaged in development work. Stocks are accumulating and in many cases the drys are closed. —A.

ENAMELLED WIRE

During the past few months enamelled wire has obtained a very great popularity for very many purposes, and considerable success has been achieved in its manufacture by way of eliminating the early defects which manifested themselves. Even now, however, there are complaints that for certain purposes difficulties arise owing to the apparent inability to coat the wires absolutely evenly with the enamel in the enamel bath. The particular complaint which has just come under notice [*Mechanical World*, 1475 (1915)] has reference to the use of this wire for telephone purposes, especially in tropical countries, but it is not altogether certain that the complaints may not be due to isolated instances rather than to there being a generally unsatisfactory result. That such wires are giving satisfaction is indicated by their use in the Post Office Telephone Department, where very stringent tests are imposed. The practice of the G. P. O. is to insist that such wires shall be able to withstand an electrical pressure of 1000 volts after immersion in caustic soda, sulfuric acid, nitric acid, and hydrochloric acid, for 48 hours, and potash for 35 minutes. It is also a fact that more than one manufacturer of telephone apparatus in which enamelled wire is used is quite satisfied with the product he is obtaining; but manufacturers of this wire will probably welcome having their attention drawn to the fact that complaints are even now made. It is suggested that simple enamel insulation is not suitable for very fine-gauged wires, and it is more or less to these that such complaints as are made relate.—A.

LIQUID FUEL FOR INTERNAL COMBUSTION ENGINES

According to *The Engineer*, No. 3095 (1915), 408, one of the problems which will shortly have to be faced in a thorough manner by the chemists of Great Britain, is that of providing an alternative fuel for the class of engines that are now dependent for their operation on petrol and benzol. In 1914 the world's output of crude oil amounted to 57 million tons and the highest possible yield of petrol from the whole quantity is placed by Professor Lewes at 1,700,000,000 gallons, of which amount the United States, alone, last year used 1,200,000,000 gallons and Great Britain over 200,000,000.

The two fuels from which petrol is likely to receive the chief opposition in the future are, of course, benzol and alcohol. The yield of the former is, however, almost infinitesimal, and there is not much likelihood of any material increase in the production. Taken at 1.8 gallons per ton of coal, the total amount, from the whole of the coal carbonized in Great Britain last year would be only 9,000,000 gallons. That the Germans had been alive to the valuable properties of benzol is shown by the fact that nearly all the benzol produced in the coke ovens in England has been exported to Germany, chiefly for use in the dye industry.

The Germans also commenced to replace all the old beehive ovens by recovery ovens, free of cost, and took payment in benzol. Recognizing the necessity for economy in this class of fuel at the present time, the Germans are now said to be employing for military transport purposes a mixture containing 80 per cent alcohol and 20 per cent benzol, to which is added 200 grains of naphthalene. The last-named ingredient is first dissolved in the benzol, which, in turn, is mixed with the alcohol and, according to Professor Lewes, the resulting mixture gives five-sixths of the power of petrol. Unfortunately, much of the benzol now